

Attorney Docket No.: 119068-1000

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Withdrawn) A method of fabricating a board from milled straw comprising the steps of:
blending the milled straw with a binder to form a mixture;
forming the mixture into a mat with sufficient size to achieve a predetermined board thickness and density; and
pressing and curing the mat into the board.

Claim 2. (Withdrawn) The method as recited in claim 1, wherein the milled straw is rice straw.

Claim 3. (Withdrawn) The method as recited in claim 1, further comprising the step of removing a portion of fines from the milled straw prior to blending.

Claim 4. (Withdrawn) The method as recited in claim 1, further comprising the step of milling straw.

Claim 5. (Withdrawn) The method as recited in claim 1, wherein the milled straw has an average longitudinal length of approximately 0.125 inches to 1.5 inches.

Claim 6. (Withdrawn) The method as recited in claim 1, further comprising the step of controlling the moisture content of the milled straw from approximately 1% to 12% of the milled straw weight.

Claim 7. (Withdrawn) The method as recited in claim 6, wherein the moisture content is controlled with an oven.

Claim 8. (Withdrawn) The method as recited in claim 1, further comprising the step of blending the mixture with a fire retardant material comprising one or more of: organic phosphates, borates, sodium silicates, aluminum trihydrates, or rice hulls.

Claim 9. (Withdrawn) The method as recited in claim 8, wherein the binder and the fire retardant material are added at a rate of approximately 2% to 20% of the milled straw weight on a dried basis.

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Claim 10. (Withdrawn) The method as recited in claim 8, wherein the milled straw weight is determined by a scale with a feedback control mechanism to regulate the rate of the binder and the fire retardant material.

Claim 11. (Withdrawn) The method as recited in claim 1, wherein the blending is performed in a high-speed blender.

Claim 12. (Withdrawn) The method as recited in claim 1, wherein the board is attached to one or more door skins.

Claim 13. (Withdrawn) A fire resistant board comprising:
milled rice straw;
a resin binder; and
a fire retardant material comprising one or more of an organic phosphate, a borate, sodium silicate, aluminum trihydrate, or rice hulls.

Claim 14. (Withdrawn) The board as recited in claim 12, wherein the milled rice straw has an average longitudinal length of about 0.125 inches to about 1.5 inches.

Claim 15. (Withdrawn) The board as recited in claim 12, wherein the resin binder is an isocyanate resin.

Claim 16. (Withdrawn) The board as recited in claim 12, wherein the resin binder comprises between about 2% and about 10% of the weight on an oven dry basis.

Claim 17. (Withdrawn) The board as recited in claim 12, wherein the fire retardant material comprises between about 2% and about 20% of the weight on an oven dry basis.

Claim 18. (Withdrawn) The board as recited in claim 12, wherein the board is attached to one or more door skins.

Claim 19. (Withdrawn) The board as recited in claim 12, wherein the board is attached to a doorframe.

Claim 20. (Presently Amended) A fire resistant door comprising:
an inner door core comprising milled rice straw fiber having average length of approximately 0.125-1.5 inches in a cured polyisocyanate resin matrix comprising between 2%

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and 10% by weight of the door core; and
a doorframe comprising a fire-resistant material.

Claim 21. (Canceled)

Claim 22. (Original) The door as recited in claim 20, wherein the door core further comprises a fire retardant material comprising one or more of: an organic phosphate, a borate, sodium silicate, aluminum trihydrate, or rice hulls.

Claim 23. (Original) The door as recited in claim 20, further comprising one or more door skins.

Claim 24. (Canceled)

Claim 25. (Canceled)

Claim 26. (Presently Amended) The door as recited in claim 20, wherein the polyisocyanate resin further comprises one or more of: phenol or a urea formaldehyde.

Claim 27. (Presently Amended) A fire resistant door comprising:

an inner door core comprising milled rice straw fiber having a length of at least 0.125 inches in a matrix of cured polyisocyanate resin comprising at least 2% and less than 10% of the weight of the inner door core; and
a doorframe comprising a fire-resistant material.

Claim 28. (Canceled)

Claim 29. (Presently Amended) The door as recited in claim 27, wherein the polyisocyanate resin further comprises one or more of polyisocyanate, phenol or a urea formaldehyde.

Claim 30. (Canceled)

Claim 31. (Previously Presented) The door as recited in claim 29, wherein the resin comprises phenol.

Claim 32. (Previously Presented) The door as recited in claim 29, wherein the resin comprises urea formaldehyde.

Claim 33. (Presently Amended) A fire resistant door comprising:

an inner door core comprising milled rice straw fiber in a matrix of cured polyisocyanate resin comprising one or more of polyisocyanate phenol or a urea formaldehyde, the cured resin comprising between 2% and 10% of the weight of the inner door core; and
a doorframe comprising a fire-resistant material.

Claim 34. (Canceled)

Claim 35. (Canceled)

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Claim 36. (Previously Presented) The door as recited in claim 33, wherein the cured resin comprises phenol.

Claim 37. (Previously Presented) The door as recited in claim 33, wherein the cured resin comprises a urea formaldehyde.

Claim 38. (Previously Presented) The door as recited in claim 33, wherein the door core further comprises a fire retardant material comprising one or more of: an organic phosphate, a borate, sodium silicate, aluminum trihydrate, or rice hulls.

Claim 39. (Presently Amended) The door as recited in claim 33, wherein the doorframe door
core further comprises a fire retardant material comprising one or more of: an organic phosphate, a borate, sodium silicate, aluminum trihydrate, or rice hulls.